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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/986,051 | 11/07/2001 | Nobuyoshi Awaya | 900-403 | 4813 |

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EXAMINER

NGUYEN, HA T

ART UNIT PAPER NUMBER

2812

DATE MAILED: 03/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,051

Applicant(s)

AWAYA, NOBUYOSHI

Examiner

Ha T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Notice to applicant

1. Applicant's Amendment and Response to the Office Action mailed 8-14-02 has been entered and made of record (Paper No. 8). The cancellation of claims 6-9 in Paper No. 8 is acknowledged.

Response to Amendment

2. In view of Applicant's amendment to the specification and to the claims, the objections to the specification and to claims 2, 4, and 5, have been withdrawn.

Applicant's arguments with regard to the rejections under 35 U.S.C. 103 have been fully considered, but they are not deemed to be persuasive. The response to these arguments will be incorporated in the new ground of rejection given below.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371[©] of this title before the invention thereof by the applicant for patent.

4. Claim 3 is rejected under 35 U.S.C. 102(e) as being anticipated by Ball et al. (USPN 6246112, hereinafter "Ball").

Referring to Figs. 1-8 and related text, Ball discloses a semiconductor device comprising: regions for forming a plurality of functional blocks 62, 64; and a region for forming wiring layers 68 for connecting the functional blocks; wherein each of the regions for forming the functional blocks includes a multilayer wiring (see Figs 3, 4), and wherein the region for forming the wiring layers for connecting adjacent functional blocks includes transmission line comprising a signal line and ground lines and/or power source lines formed above and below the signal line, respectively, as viewed cross sectionally, to sandwich the signal line via an insulating film (see par. bridging cols. 2 and 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ball in view of and Sim et al. (USPN 6242796, hereinafter "Sim").

Referring to Figs. 1-8 and related text, Ball discloses a semiconductor device comprising: regions for forming a plurality of functional blocks 62, 64; and a region for forming wiring layers 68 for connecting the functional blocks; wherein each of the regions for forming the functional blocks includes a multilayer wiring (see Figs 3, 4), and wherein the region for forming the wiring layers for connecting adjacent functional blocks includes transmission line comprising a signal line and ground lines or power source lines formed above and below the signal line, respectively to sandwich the signal line via an insulating film, via an insulating film as viewed cross sectionally. But it does not disclose expressly a coaxial line comprising an inner signal line and an outer ground line surrounding the signal line.

However, the missing limitation is well known in the art because Sim discloses this feature (See abstract and Fig. 5).

A person of ordinary skill is motivated to modify Ball with Sim to reduce distortion of transmitted signal (see Sim, Summary).

Therefore, it would have been obvious to combine Ball with Sim to obtain the invention as specified in claim 1 .

7. Claims 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ball or Ball in view of Sim and further in view of Parikh (U.S. Patent 6225207).

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Ball or the combined teaching of Ball and Sim discloses substantially the limitations of claims 2, 4, and 5, as shown above.

But it does not disclose expressly wherein a bottom surface of a wiring in the multilayer wiring provided in the region for forming the functional block is on the same plane as a bottom surface of the ground line or power source line located below the transmission line provided in the region for forming the wiring layers for connecting the functional blocks.

However, the missing limitation is well known in the art because Parikh discloses in various embodiment the simultaneous formation of power and signal wiring for different levels including for example power line 1042 and signal line 1046 in Fig. 10D, they have bottom surface on the same plane. Besides, it would have been obvious for a person of ordinary skill in the art to use thicker wiring layers in the region for forming wiring layers than in the functional blocks to increase transmission speed.

A person of ordinary skill is motivated to modify Ball or Ball and Sim with Parikh to obtain a simplified process ensuring a reduction in production cost of device made.

Therefore, it would have been obvious to combine Ball or Ball and Sim with Parikh to obtain the invention as specified in claims 2, 4, and 5.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

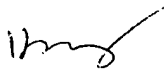
A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha Nguyen whose telephone number is (703)308-2706 . The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM, except the first Friday of each bi-week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308-3325. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Ha Nguyen
Primary Examiner
03-07 - 03